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How do you explain the risk of air pollution to your patients?

A recent report by the Royal College of Physicians in the UK [1] has highlighted the pressing need for action on air quality, both in terms of awareness and education, and in order to try and take active measures to reduce pollution levels. The report has calculated that 40000 deaths are brought forward annually due to air pollution in the UK and highlighted that:

- air quality in many countries is getting worse;
- for many vulnerable populations, not enough is being done; and
- there is a lack of appreciation by patients and the public of the impact of air pollution on their health.

In March 2016, a workshop was convened by the European Respiratory Society (ERS) Environment and Healthy Committee (a subcommittee of the ERS Advocacy Council) in response to concerns among members of the ERS on the topic of "the risk of air pollution". The issue had been raised that many healthcare professionals (HCPs) are now faced daily with questions and concerns from patients about the impact that poor air quality can have on their health. This holds particularly true for individuals who suffer from chronic respiratory conditions, such as asthma and chronic obstructive pulmonary disease (COPD) [2].

The problem

The British Lung Foundation (www.blf.org.uk) and the Dutch Lung Foundation (Longfonds) (www.longfonds.nl), who were present at the workshop, set the scene with their views on public and patient needs. They highlighted that air pollution is impacting on people living with lung conditions (>65% of Longfonds patients explained that they felt it was a problem for them), that parents are noticing the impact on their children, that there is strong public support for more pollution information and health advice, and that this information should be accessible, timely and, where possible, localised.

Current knowledge

The negative impact of poor air quality on human health is now well accepted, with many important papers having made the association between specific pollutants and human health clear, both in the short and long term [3–5]. These data have allowed for the developed of air quality indexes, scales that can alert individuals when the air quality is at levels that are harmful to human health [6–8].

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It is also now possible to have much more localised monitoring of individuals and their immediate environment. This has the capacity to allow for much more detailed studies linking air quality directly with health.

Gaps

The workshop participants agreed that although the evidence is developing rapidly there are many gaps between this evidence and public understanding and awareness. Specifically, the workshop participants considered that for the public, the gaps included:

- the need to understand more about the long-term effects of poor air quality in a way that is comparable with other risk factors;
- the need to understand which actions an individual can make to reduce exposure, whilst ensuring healthy activities are still maintained and having no negative impact on activities of daily life; and
- the need to understand that each individual has a role to play to ensure that the air quality is as good as it can be.

The workshop participants felt that for patients, the gaps included:

- the need to understand how acute episodes of poor air quality will affect their own health and the actions they need to take to protect themselves; and
- the need for healthcare providers to have the tools to advise patients about air pollution and how to change their treatment plans or activities on high pollution days, and how to reduce long-term exposure.

Specific points that were highlighted are listed in table 1.

The workshop discussed the lack of guidance available to HCPs, particularly in primary care, on the topic of air quality. Two strategy reports focussing on asthma (Global Initiative for Asthma) [9] and COPD (Global Initiative for Chronic Obstructive Lung Disease) [10] were discussed, and in both cases, there was a negligible mention of air quality and no guidance given on how to advise patients. It was noted by the group that better guidelines are needed for HCPs with clear advice to give to respiratory patients with respect to long-term air quality and acute peaks, so that this can be integrated into an individual's care plan. There was also some discussion about whether primary care had a role to inform non-"at risk" patients about air quality. There was concern about whether this should be a priority with the limited time that HCPs have to spend with patients. The information on air quality in general should also be consistent with other patient groups (cardiovascular, diabetes, *etc.*).

The following gaps for HCPs were highlighted:

- links to useful information on outdoor air pollution for patients and HCPs;
- air quality updates;
- evidence-based advice in clinical guidelines for different patient groups (*e.g.* asthma and COPD); and
- treatment plans for individual patients regarding air pollution.

Conclusion

Respiratory and primary HCPs are key to ensuring that awareness of the importance of clean air is raised, that patients are getting the right advice with regards both short- and long-term exposure, and that they advocate at local, national and international levels for better air quality [11–13].

Table 1 *Specific points about the effect of air pollution on health that were highlighted by the workshop participants*

Information needs to be scientifically reliable
Personal experiences should be used to make it relevant for people
Individuals should be encouraged to take responsibility and action
The risk of air quality to an individual should be communicated to patients and to the general public
People should be informed of what actions they can take rather than just information about the health risks and/or pollution levels
Risk should be compared to other risks (*e.g.* environmental tobacco smoke and traffic accidents)
Social status should be considered
Advice should be practical
Information should be simple
The issue should be addressed in a way that is adapted to local needs in different countries

Actions

In this issue of *Breathe*, there is a factsheet that has been developed for HCPs to enable them to better explain the risk of air pollution to patients. This attempts to put risk into a more meaningful format for individuals, and particularly those living with chronic lung conditions.

The European Lung Foundation (ELF) and the ERS will build on the outputs from the workshop and the factsheet to produce a toolkit for HCPs, which will be available at the ERS International Congress this year in London, UK, and available online after the event (www.healthylungsforlife.org). This toolkit will also contain a factsheet on outdoor air quality produced by the ELF and a booklet called *Air Quality and Health* produced by the ERS Environment and Health committee.

There will be several sessions at the ERS International Congress on the topic including:

- on Tuesday, September 6, 2016, at 08:30–10:30 h in room L, there is a symposium on urban air pollution and human health;
- on Wednesday, September 7, 2016, at 08:30–10:30 h in the Prince Regent room, there is a session on health effects related to air pollution; and
- on Wednesday, September 7, 2016, at 10:45–12:45 h in the Prince Regent room, there is a symposium on occupational lung disease worldwide.

For the public, the ERS/ELF Healthy Lungs for Life campaign this year will focus once more on clean air, with events throughout London and the UK, and across the world in 2016–2017.

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Conflict of interest

P. Powell is an employee of the European Lung Foundation.

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